WHAT IS CLAIMED IS:

1. A liquid crystal display device comprising:

a pair of substrates arranged facing each other with a pre-set gap in-between;

liquid crystals held in said gap;

means for applying an electrical field to said liquid crystals to change the state of orientation thereof;

a wall structure formed in each of small-sized areas obtained on sub-division along at least one substrate for orienting the liquid crystals lying in each small-sized area axially symmetrically on application of said electrical field; and

a groove structure formed in each of said small-sized areas and adapted for adjusting the axial symmetrical orientation of said liquid crystals in cooperation with said wall structure.

2. The liquid crystal display device according to claim 1 wherein said wall structure is formed for encircling a rectangular area and

wherein said groove structure is formed for extending along diagonal lines of said rectangular area.

3. The liquid crystal display device according to claim 2 wherein the liquid crystals in each small-sized area are divided into four groups and are oriented symmetrically with respect to an axis perpendicular to a point of intersection of said two diagonals lines.

4. The liquid crystal display device according to claim 1 wherein said one substrate

is a transparent plate and a color filter layer, a transparent insulating layer and a transparent electrically conductive layer are formed on one surface thereof;

said groove structure being formed by patterning at least one of said color filter layer, transparent insulating layer and the transparent electrically conductive layer.

5. The liquid crystal display device according to claim 1 wherein said one substrate includes an electrode as means for applying an electronic field to said one substrate; and

wherein said groove structure is formed in an insulating layer formed in said electrode itself or in an insulating film arranged on a reverse surface or a front surface of said electrode.

6. The liquid crystal display device according to claim 1 wherein said liquid crystals are of negative dielectric constant anisotropy and

wherein the surfaces of said two substrates are processed for orientation for orienting said liquid crystals perpendicularly in the absence of applied voltage.

7. The liquid crystal display device according to claim 1 wherein a photo-polymerizable resin is added to said liquid crystals for stabilizing the state of axially symmetrical orientation produced on application of an electrical field.

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8. The liquid crystal display device according to claim 1 wherein the axially symmetrical orientation of said liquid crystals is distorted along said axis and display is by exploiting optical rotating characteristics.

9. The liquid crystal display device according to claim 8 wherein a chiral substance

is added to said liquid crystals for distorting the state of orientation thereof.

10. The liquid crystal display device according to claim 1 wherein the axially symmetrical orientation of said liquid crystals is not distorted along said axis and display is by exploiting birefringence.

11. The liquid crystal display device according to claim 1 wherein said means for applying the electrical field is made up of signal electrodes formed in columns on one substrate and discharge channels formed in rows in the other substrate, said discharge channel being separated from said liquid crystals by a dielectric sheet.

12. The liquid crystal display device according to claim 1 wherein said means for applying the electrical field is formed on both substrates and is facing electrodes with said liquid crystals in-between.

13. A method for the preparation of a liquid crystal display device comprising a pair of substrates arranged facing each other with a pre-set gap in-between;

liquid crystals held in said gap;

means for applying an electrical field to said liquid crystals to change the state of orientation thereof, said method comprising the steps of

forming a wall structure in each of small-sized areas obtained on sub-division along at least one substrate for orienting the liquid crystals lying in each small-sized area axially symmetrically on application of said electrical field; and

forming a groove structure formed in each of said small-sized areas and adapted for adjusting the axial symmetrical orientation of said liquid crystals in cooperation

with said wall structure.